

A TRANSPARENT FLEXIBLE BARRIER FOR LIQUID CRYSTAL DISPLAY
DEVICES AND METHOD OF MAKING THE SAME

ABSTRACT OF THE DISCLOSURE

[0042] A flexible liquid crystal display comprising two plates that are substantially parallel to each other. Each of the plates includes a polymeric substrate having a roughness of up to about 5 nm, a barrier coating disposed on a surface of the polymeric substrate, and a transparent conductive layer disposed on a surface of the barrier coating opposite the polymeric substrate. A liquid crystal material is interposed between the two plates, such that the liquid crystal material contacts the transparent conductive layer on each of the two plates. The invention also includes a barrier coated polymer sheet for use in a liquid crystal display having a polycarbonate substrate with a roughness up to about 5 nm and a barrier coating, such as silicon nitride or silicon oxide, having a density of at least 1.8 g/cc disposed on a surface of the polycarbonate substrate. A method of making the barrier coated polymer sheet is also described.